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B. Mark Hirst

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HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER

LAXTON, GARY L

ART UNIT

PAPER NUMBER

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ELECTRONIC

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JERRY.SHORMA@HP.COM
ipa.mail@hp.com
jessica.l.fusek@hp.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte B. MARK HIRST

Appeal 2009-002351
Application 10/764,409
Technology Center 2800

Decided:¹ June 30, 2009

Before MAHSHID D. SAADAT, ROBERT E. NAPPI,
and CARLA M. KRIVAK, *Administrative Patent Judges*.

SAADAT, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134(a) from a Final Rejection of claims 1-30, 32-38, and 40-52. Claims 31 and 39 have been canceled. We have jurisdiction under 35 U.S.C. § 6(b).

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

We affirm.

STATEMENT OF THE CASE

Appellant's invention relates to power converters for conversion from alternating current (AC) to direct current (DC) power (Spec. 2). Claim 1, which is illustrative of the claimed invention, reads as follows:

1. An apparatus comprising:

a power converter;

said power converter including a charge pump capacitor, said charge pump capacitor coupled to a two transistor totem-pole configuration in said converter so as to drive a primary of an isolation transformer; and

wherein a parasitic diode in one transistor opposes a parasitic diode in the other transistor.

The Examiner relies on the following prior art references:

Walsh	US 5,872,983	Feb. 16, 1999
Suzuki	US 6,236,192 B1	May 22, 2001
Balakrishnan	US 6,813,168 B2	Nov. 2, 2004
		(filed Nov. 18, 2002)

The rejections as presented by the Examiner are as follows:

Claims 1-3, 5, 7, 9-18, 20, 22, 24-30, 32-36, 41-45, 47, 49, 51, and 52 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Suzuki.

Claims 4, 6, 19, 21, 37, 38, 46, and 48 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Suzuki and Walsh.

Claims 8, 23, 40, and 50 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Suzuki and Balakrishnan.

Rather than repeat the arguments of Appellant or the Examiner, we refer to the Brief and the Answer for their respective details. Only those arguments actually made by Appellant have been considered in this decision. Arguments that Appellant did not make in the Brief have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii).

ISSUES

Appellant argues that Suzuki does not anticipate because the switches disclosed in Suzuki are not the same as the claimed “charge pump capacitor coupled to a two transistor totem-pole configuration in the converter so as to drive a primary of an isolation transformer” (App. Br. 17-18). With respect to the obviousness rejections over Suzuki in view of Walsh or Balakrishnan, Appellant again argues that Suzuki does not teach or suggest the claimed feature mentioned above while Walsh or Balakrishnan do not cure the alleged deficiencies of Suzuki (App. Br. 19-22).

Appellant’s arguments present the following issues:

1. With respect to the rejection of claims 1-3, 5, 7, 9-18, 20, 22, 24-30, 32-36, 41-45, 47, 49, 51, and 52, has Appellant shown that the Examiner erred in finding that Suzuki teaches the claimed “charge pump capacitor coupled to a two transistor totem-pole configuration in said converter so as to drive a primary of an isolation transformer?”
2. With respect to the remaining claims, has Appellant shown that the Examiner erred in finding that the combination of the cited references teaches the claimed requirements of these dependent claims?

FINDINGS OF FACT

The following findings of fact (FF) are relevant to the issues involved in the appeal.

1. Appellant's Specification teaches that the embodiment shown in Figure 2 comprises two transistor totem-pole configurations that are coupled to an AC Line and an AC Neutral, while a port of the pump capacitance is coupled between the two configurations. (Spec. 6:8-13.)

2. The Examiner interprets the claimed term "coupled" as a general connection which does not define an exact location or configuration for the connection. (Ans. 7.)

3. The AC voltage regulator disclosed by Suzuki, as depicted in figure 3, includes the followings:

On a secondary coil side of the high-frequency transformer 4, a secondary coil is provided with a center tap 41, and this center tap 41 is connected to the AC input terminal 1a (or an output terminal of the input filter 2 in this preferred embodiment). Also, input terminals of the bi-directional semiconductor switches SW3 and SW4 of the second bi-directional semiconductor switch circuit 5 are respectively connected to output terminals a and b of the secondary coil of the high-frequency transformer 4.

(Fig. 3; col. 2, ll. 53-63.)

4. The Examiner reads the claimed charge pump capacitor on capacitors C1 and C2 of Suzuki that re coupled, through DC rail 3 or through capacitor C3, to switches SW1 and SW2 as the claimed two transistor totem-pole configuration. (Ans. 7.)

5. The Examiner takes the connection described above as the pump capacitor being "coupled" between the two transistor totem-pole configuration to drive the primary of transformer 4. (*Id.*)

PRINCIPLES OF LAW

1. Anticipation

In rejecting claims under 35 U.S.C. § 102, “[a] single prior art reference that discloses, either expressly or inherently, each limitation of a claim invalidates that claim by anticipation.” *Perricone v. Medicis Pharmaceutical Corp.*, 432 F.3d 1368, 1375-76, 77 (Fed. Cir. 2005), citing *Minn. Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1565 (Fed. Cir. 1992). Also See *In re Paulsen*, 30 F.3d 1475, 1478-79 (Fed. Cir. 1994). “Anticipation of a patent claim requires a finding that the claim at issue ‘reads on’ a prior art reference.” *Atlas Powder Co. v. IRECO, Inc.*, 190 F.3d 1342, 1346 (Fed. Cir. 1999) (quoting *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 781 (Fed. Cir. 1985)).

It is well settled that if a prior art device inherently possesses the capability of functioning in the manner claimed; anticipation exists regardless of whether there was recognition that it could be used to perform the claimed function. See, e.g., *In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997).

2. Obviousness

The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art. See *In re Kahn*, 441 F.3d 977, 987-988 (Fed. Cir. 2006), *In re Young*, 927 F.2d 588, 591 (Fed. Cir. 1991) and *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). The initial burden of establishing reasons for unpatentability rests on the examiner. *In re Oetiker*, 977 F.2d 1443, 1446 (Fed. Cir. 1992).

The Examiner can satisfy this burden by showing some articulated reasoning with some rational underpinning to support the legal conclusion of

obviousness. *KSR Int'l. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (citing *In re Kahn*, 441 F.3d at 988 (Fed. Cir. 2006)).

ANALYSIS

§ 102 Rejection over Suzuki

Appellant's arguments that the Examiner erred in rejecting claim 1 as being anticipated by Suzuki are not persuasive. Contrary to Appellant's arguments (App. Br. 17-18), the two switches SW1 and SW2 disclosed in Suzuki are "coupled" to capacitors C1 and C2 (FF 3). Because "coupled" is broadly used by Appellant as some type of connection (FF 1), the connection between the capacitors and the switches shown in Figure 3 of Suzuki (FF 3) meet the broad recitation of "coupled." Furthermore, the Examiner has properly used the broadest reasonable interpretation of the term "coupled," which is consistent with Appellant's Specification (FF 2-3), in reading the claimed configuration on the capacitors and switches depicted in Figure 3 of Suzuki (FF 4-5).

Therefore, Appellant has not shown error in the Examiner's finding that Suzuki teaches a "charge pump capacitor coupled to a two transistor totem-pole configuration in said converter so as to drive a primary of an isolation transformer." Accordingly, we conclude that Appellant has not shown that the Examiner erred in rejecting claim 1 under 35 U.S.C. § 102(b).

With respect to the remaining claims that are rejected as anticipated by Suzuki, Appellant either repeats the claim recitations discussed above (App. Br. 18), or presents no separate arguments (App. Br. 19). We consider such conclusory assertions without supporting explanation or analysis

particularly pointing out errors in the Examiner's reasoning to fall short of persuasively rebutting the Examiner's prima facie case of anticipation. *See Oetiker*, 977 F.2d at 1445. In the absence of a separate argument with respect to those claims, they stand or fall with the representative independent claim. *See* 37 C.F.R. § 41.37(c)(1)(vii). Therefore, the rejection of claims 2, 3, 5, 7, 9-18, 20, 22, 24-30, 32-36, 41-45, 47, 49, 51, and 52 under 35 U.S.C. § 102(b) is also sustained.

§ 103 Rejection over Suzuki and Walsh

Appellant has not provided any separate arguments regarding this rejection and has only relied on the same arguments made with respect to claim 1, which we found to be unpersuasive. Appellant further asserts that Walsh does not cure the alleged deficiencies of Suzuki (App. Br. 19-21). Because Appellant has not shown that the Examiner erred, we will sustain the 35 U.S.C. § 103 rejection of claims 4, 6, 19, 21, 37, 38, 46, and 48 over Suzuki and Walsh.

§ 103 Rejection over Suzuki and Balakrishnan

Similarly, Appellant provides no separate arguments regarding this rejection and relies on the same arguments made with respect to claim 1. Appellant further asserts that Balakrishnan does not cure the alleged deficiencies of Suzuki (App. Br. 21-22). Because Appellant has not shown that the Examiner erred, we will sustain the 35 U.S.C. § 103 rejection of claims 8, 23, 40, and 50 over Suzuki and Balakrishnan.

CONCLUSION

Based on the findings of facts and analysis above, we conclude that Appellant has not shown that the Examiner erred (1) in finding that Suzuki teaches the claimed “charge pump capacitor coupled to a two transistor totem-pole configuration in said converter so as to drive a primary of an isolation transformer” and (2) in finding that the combination of the cited references teaches the claimed requirements of the rejected dependent claims.

ORDER

The decision of the Examiner rejecting claims 1-30, 32-38, and 40-52 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. 1.136(a)(1)(iv).

AFFIRMED

KIS

HEWLETT PACKARD COMPANY
P. O. BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400